

# Vermont Forest Health

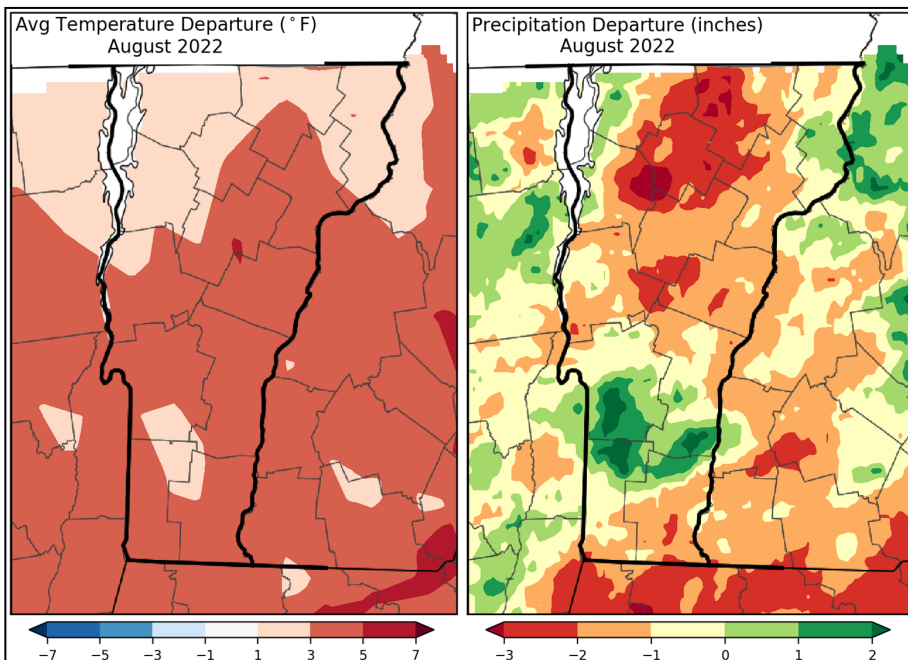
## Insect and Disease Observations – August 2022

Department of Forests, Parks & Recreation  
August 2022 [vtforest.com](http://vtforest.com)

### Weather

August marks the last full month of the summer season, with cooler temperatures around the corner. State-wide temperatures averaged 68.5 °F, which was 0.2 degrees cooler than August of last year. Statewide precipitation averaged 2.84 inches, which was 0.89 inches less than August of last year.

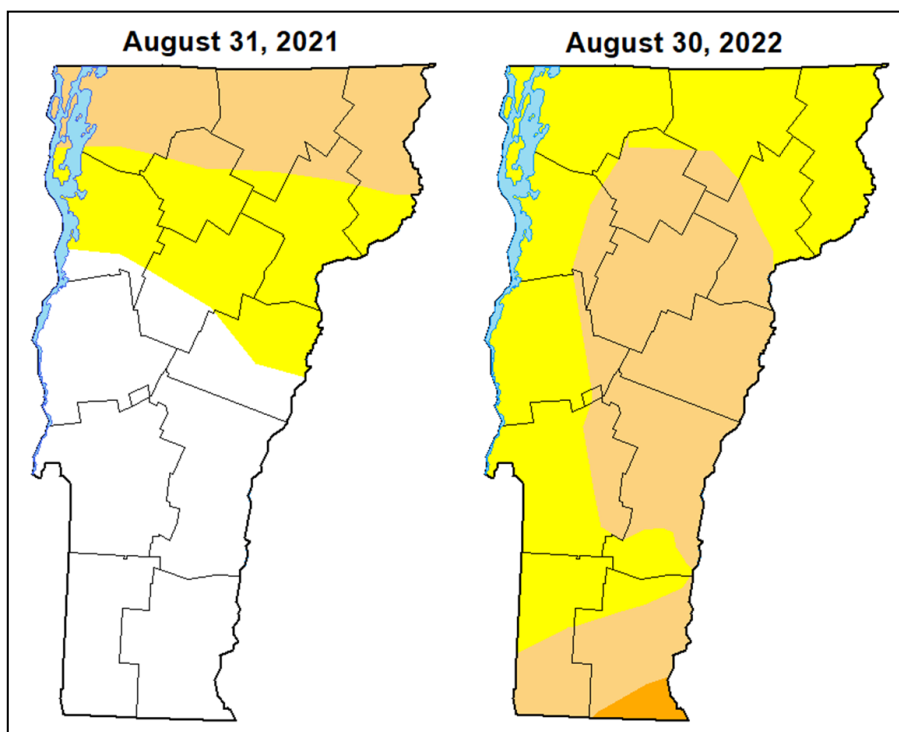
Average temperature and precipitation departure from normal. Maps and data: [Northeast Regional Climate Center](http://NortheastRegionalClimateCenter.com).



### Drought Update

Drought severity increased in across the state. By the end of the month, the U.S. Drought Monitor listed 1.30% of the state in severe drought, 44.95% of the state in moderate drought, 55.05% as abnormally dry. Compared to this time last year, 22.30% of the state was listed in moderate drought, 26.13% as abnormally dry and 51.57% as no drought.

Drought Comparison between August 2021 and 2022 Map and data: [U.S. Drought Monitor](http://U.S.DroughtMonitor.com).

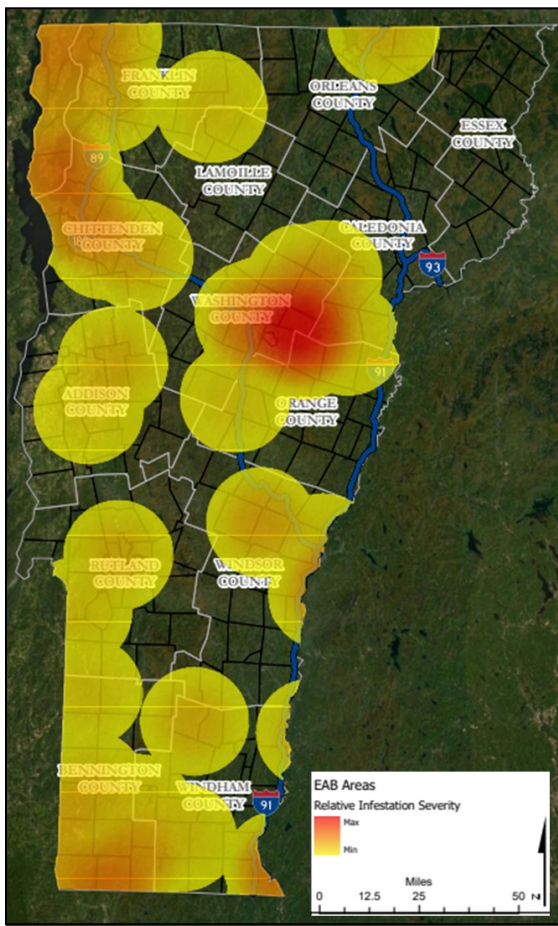
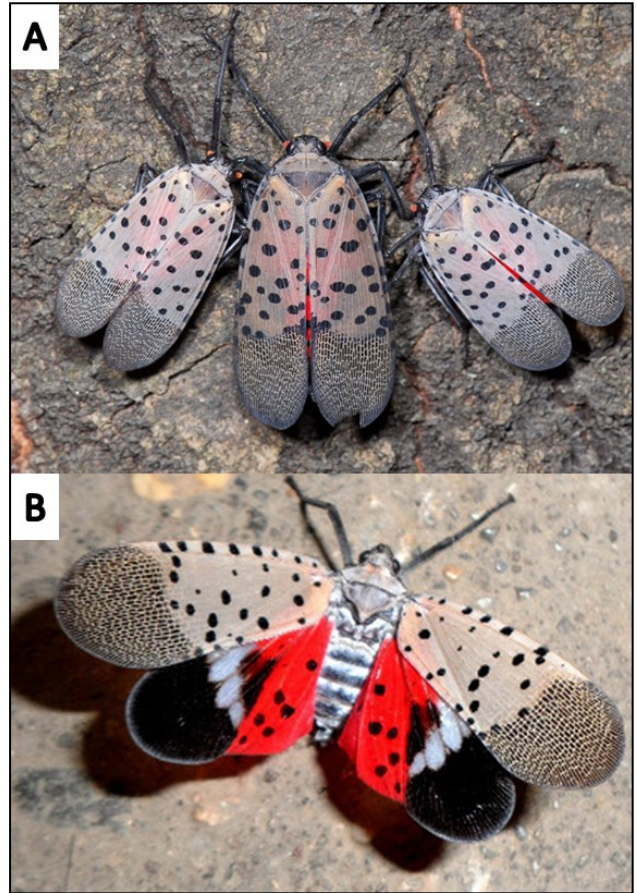




## Invasive Pest Update

Several dead adult spotted lanternflies (SLF, *Lycorma delicatula*) have been reported by local businesses and citizens. This invasive planthopper is native to Asia and was first detected in the United States in Pennsylvania in 2014. Since then, this species has been reported as established with an infestation in 13 U.S. states and reported individually without infestation in three U.S. states including Vermont. Although this insect is a poor flyer, it can travel long distances aided by humans, hitching rides on surfaces including but not limited to, vehicles, firewood, nursery stock, and stone shipments. SLF has been reported on more than 100 plant species and can therefore drastically alter our forested and agricultural landscapes. If you are traveling through or from an SLF-infested state, or if you are receiving goods from infested states, please check your cars, trucks, and goods for SLF. For more information, or to report a sighting, please visit [VTInvasives](#).

Adult spotted lanternflies **A:** wings closed. **B:** wings opened. Photo credit: NJ Agency of Agriculture.



Several new emerald ash borer (EAB, *Agrilus planipennis*) detections were found by public reporting and purple traps in previously unconfirmed towns. The new detections were found in the towns of Milton and Poultney. These new finds did not expand the area of infestation, but did increase the severity of infestation in both Chittenden and Rutland Counties. If you are a forest landowner, homeowner, forester, logging contractor, municipality, and/or utility professional in an infested area, you should evaluate the options available and immediately implement [“Slow the Spread” recommendations](#). For additional resources including managing ash, or Use Value Appraisal guidance, check out the resources available at [VTInvasives](#).



EAB purple trap. Photo credit: USDA APHIS.

EAB infested areas in Vermont. Map and data: [ANR’s Natural Resources Atlas](#).



## Supplemental Sightings

Oak shothole leaf miner (*Japanagromyza viridula*) damage was observed on red oak in Essex County this month. Adult females of this leaf miner fly cause the characteristic leaf damage by using their ovipositor to cut open newly opening leaf buds in the spring. The wounds secrete fluids that are then lapped up by the insect. As the leaf expands, the damage will dry out, causing the affected area to turn brown and fall out.

Oak shothole leaf miner damage. Photo credit: Steven Katovich, [Bugwood](#).



A smokey winged beetle bandit (*Cerceris fumipennis*) nest was observed in Windsor County this month. This native ground-nesting wasp is solitary, however, multiple nests are often found in close proximity. Adult wasps capture and paralyze buprestid (Buprestidae) beetles to feed to their developing larvae. Historically, this wasp was utilized as biosurveillance of emerald ash borer by numerous states, including Vermont.

Smokey winged beetle bandit nest. Photo credit: FPR Staff.

Ganoderma butt rot (*Ganoderma sessile*) was observed on decaying hardwood trees in Windham County this month. This polypore is saprotrophic and sometimes parasitic, causing white rot in infected hosts. Infected trees exhibit yellowing foliage, die-back, and are more susceptible to windthrow due to extensive lower bole and root decay.

*Ganoderma sessile*. Photo credit: Michael Kuo, [MushroomExpert](#).



Mid-summer severe thunderstorms led to blowdowns and windthrown trees in Victory, VT. Heavy rainfall likely saturated the soils, loosening the soil and reducing the anchorage of the trees to the ground. Although trees can usually withstand persistent wind, sporadic strong wind gusts can lead to snapped and uprooted trees.

Victory storm damage. Photo credit: FPR Staff.



Dog vomit slime mold (*Fuligo septica*) was observed on garden pots in central Vermont this month. "Slime mold" is a term used to describe several free-living single-celled eukaryotes in the kingdom Protista. Slime molds spend part of their lifecycle in a gelatinous, slimy state, where many single-celled organisms work together to find and share food and other resources. They move by pulsating calcium back and forth and consume microbes, fungi, and non-living organic matter on a variety of surfaces.

Dog vomit slime mold. Photo credit: Gary Emberger, [Messiah University](#).

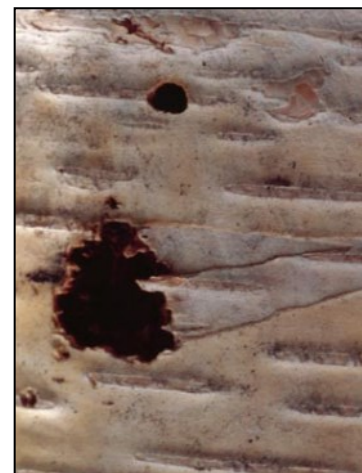


The final instar stage of dogwood sawflies (*Macremphytus tarsatus*) was observed on flowering dogwood (*Cornus florida*) in Putney, VT. This native insect skeletonizes dogwood leaves in earlier instars, and when it matures, consumes all leaf parts except for the midrib. In its larval stage, this insect may bore into soft or decaying wood to create an overwintering chamber.

Final instar stage dogwood sawfly larvae. Photo credit: FPR staff.

Bronze birch borer (*Agrilus anxius*) damage was observed on paper birch (*Betula papyrifera*) in Grand Isle County this month. This native insect is a secondary pest and can be lethal to trees that are facing stress from drought and/or unfavorable growing conditions. As larvae, this pest creates irregular serpentine galleries under the bark, leading to stem girdling and dieback. As adults, this insect emerges from D-shaped exit holes, that are often associated with a rust brown stain.

Bronze birch borer exit holes with (top) and without rust-brown stain (bottom). Photo Credit: Whitney Cranshaw, Colorado State University.



Dotted leafhopper moth caterpillars (*Psilocorsis reflexella*) were observed feeding on American beech (*Fagus grandifolia*) in Windsor County this month. As caterpillars, this native insect binds overlapping leaves together with silk and skeletonizes host leaves. Their feeding causes premature browning and leaf drop but does not contribute to large-scale defoliation or dieback.

Dotted leafhopper moth caterpillars. Photo credit: FPR Staff.



Oak twig pruner (*Anelaphus parallelus*) damage has been observed causing branch flagging on northern red oaks (*Quercus rubra*) around mile marker 61 on Route 89 north. The larval stage of this insect burrows down the pith of oak twigs, causing twigs to either hang dead on trees or litter the ground. Infested branches can exhibit leaf browning, dieback and heavy infestations may lead to distorted growth. Although numerous branches can be infested on the same tree, this insect is not known to cause severe dieback or mortality.



Cross section of oak twig pruner gallery. Photo credit: J. Rosovsky, VAAFM.

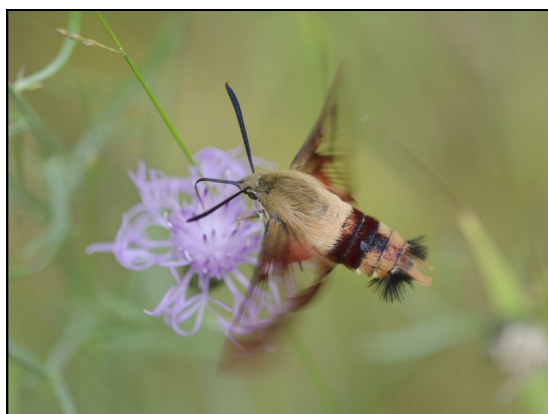


Mimosa webworm caterpillars (*Homadaula anisocentra*) were observed on honey locust (*Gleditsia triacanthos*) in Montpelier, VT early this month. This introduced pest has two generations per year, with the larval stage of the second generation being active during August and September. Larvae feed in silk nests that encase several leaflets which become skeletonized, turn brown and die. If not managed, infestations may cause complete defoliation.

Mimosa webworm nests. Photo credit: Joe Boggs, Ohio State University Extension.

Berkeley polypore (*Bondarzewia berkeleyi*) fruiting bodies were observed on black cherry (*Prunus serotina*) in Windsor county this month. This fungus is both parasitic and saprotrophic, consuming both living and dead tissue of host trees. This polypore is a white butt rotter and can be found growing out of the base of infected trees. A single fruiting body can contain one to five caps that arise from a single stem, and when together, can be 25-80cm wide.

Berkeley polypore fruiting body. Photo credit: Michael Kuo, [MushroomExpert](#).

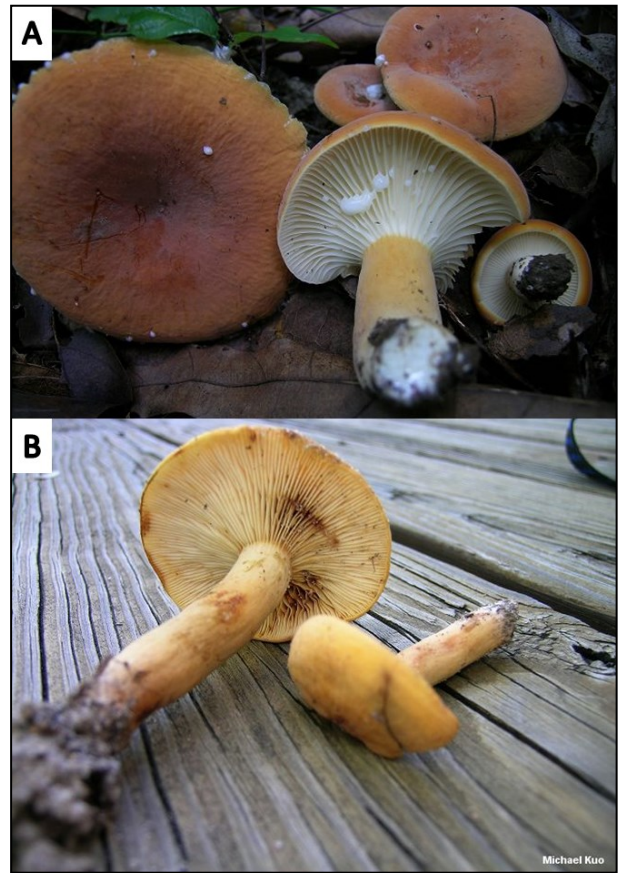


Hummingbird moths (*Hemaris thysbe*) continue to be reported in gardens this month. Its preferred habitat is in second-growth forests, meadows, and gardens and is most commonly found in the eastern United States. This moth is considered a hummingbird mimic since it hovers above flowers and has fast beating wings.

Hummingbird moth. Photo credit: Phil Myers, University of Michigan Museum of Zoology.

## Foraging For Fungi

Hygrophorus milky mushroom (*Lactarius hygrophoroides*) is a late summer edible that is mycorrhizal with oaks (*Quercus* spp.). This fruiting body is flat to vase-shaped and is convex when immature. Its cap is dull orange to cinnamon orange in color and is 3-10cm wide. The underside of the cap has white to pale-yellow decurrent gills that have a white spore print. Its stem is similar in color to the cap and is 3-5cm long and 0.5-1.5cm wide. When damaged, this mushroom produces a white milky fluid. This mushroom has an edible lookalike, the fishy milkcap (*Lactifluus volemus*). This mushroom is also mycorrhizal with oaks, but can also be found growing in conifer stands. The fruiting body has a fishy odor, is flat to shallowly vase-shaped, and is also convex when immature. Its cap varies from light to dark brownish orange, is finely velvety, and is 3-13cm wide. The underside of the cap has creamy white decurrent gills that have a white spore print. When damaged, this mushroom bruises brown and produces a white milky fluid that turns brown when exposed to air. When exposed to KOH, this mushroom's cap turns olive-colored and its milk will turn orange.



**A:** Hygrophorus milky mushroom.  
**B:** Fishy milkcap. Photo credit: Michael Kuo, MushroomExpert.



Various lobster mushrooms. Photo credit: Michael Kuo, MushroomExpert.

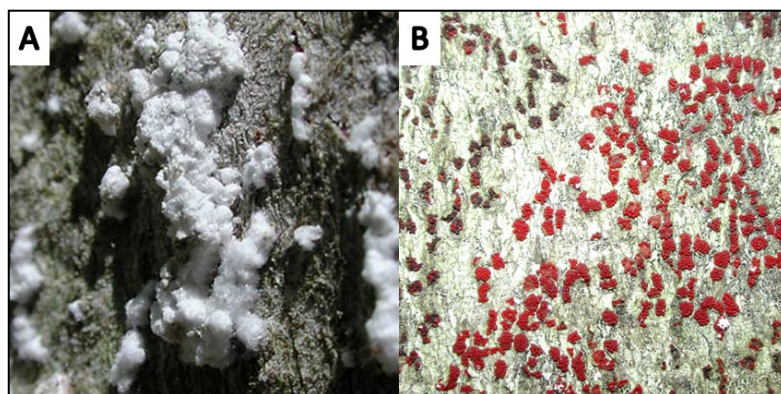
Lobster mushrooms (*Hypomyces lactifluorum*) are another edible that can be found in late summer and early fall. While most edible fungi belong to the phylum Basidiomycota, lobster mushrooms are parasitic fungi in the phylum Ascomycota. This parasite covers its host entirely, causing the host to be a bright orange-red color that resembles a cooked lobster tail. The surface of the lobster mushroom is hard and is covered in many small, raised (pimple-like) dots. Lobster mushrooms commonly parasitize *Lactarius piperatus* and *Russula brevipes* but have the potential to parasitize other mushrooms that could be toxic. Due to a lack of host specificity, the size and shape of lobster tails can vary, although it has been documented to twist and reshape the host mushroom as its parasitized.

***The State of Vermont accepts no liability or responsibility for the consumption and/or misidentification of any mushrooms mentioned in this publication.***



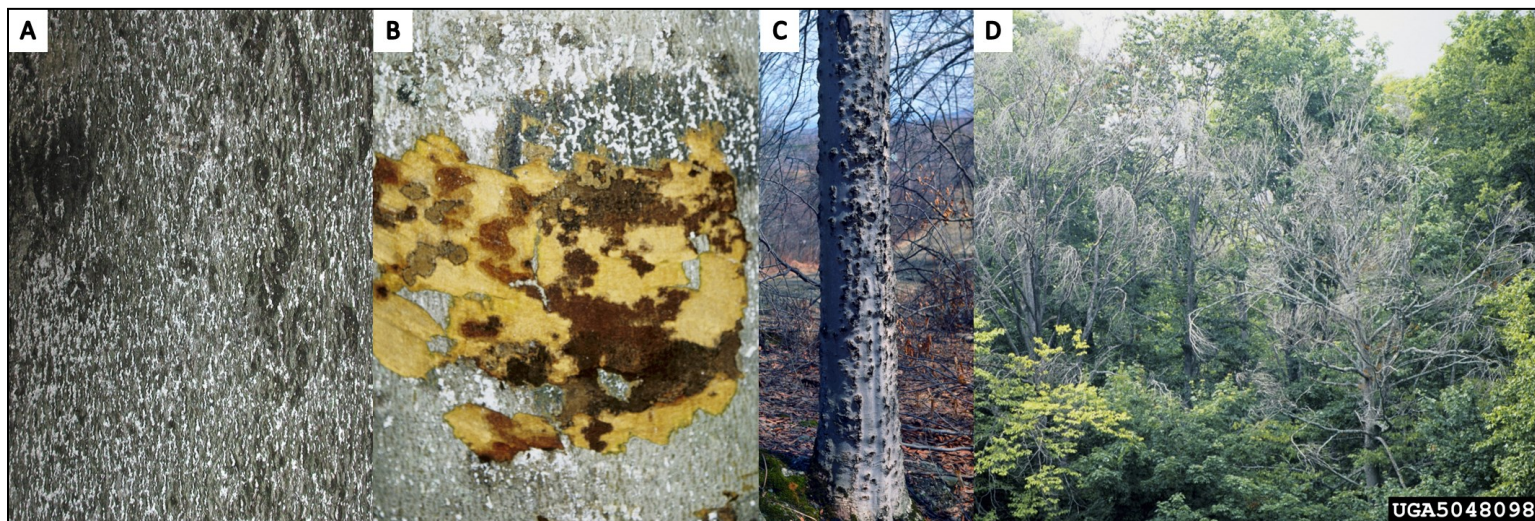
## Pests in the Spotlight: Beech Bark Disease

**Beech bark disease** (BBD), is a well-established complex that affects American beech (*Fagus grandifolia*) throughout the state. The BBD complex consists of an introduced sap-sucking beech scale (*Cryptococcus fagisuga*) and native canker pathogen (*Neonectria faginata* and/or *Neonectria ditissima*). Beech scale is thought to have been introduced to North America from Europe in the late 1890s, and by 1960 BBD became well established in New England. In 2021, 21,093 acres of BBD damage were mapped in Vermont by FPR aerial survey efforts.



**A:** Beech scale. **B:** *Neonectria* fruiting bodies. Photo credit: Ron Kelley.

Beech scale uses its piercing-sucking mouthparts to feed on infested trees, creating small entry holes that become colonized by *Neonectria* fungi. *Neonectria* fungi kill infected tissue, causing cankers and girdling stems. Although cankers are generally small, the large quantity of cankers on a single tree leads to severe dieback and mortality. Areas where only beech scale is present are classified as an “Advancing Front” of this disease. These scale insects are parthenogenetic (reproduce asexually) allowing populations to increase without having to find a mate. In these stands, trees may experience premature yellowing and dieback, but are at a lower risk of mortality. Stands where both causal agents are present are classified as the “Killing Front”. In these stands, trees may experience yellowing, numerous cankers, dieback, and mortality. Stands that have experienced heavy mortality from BBD are classified as “Aftermath Forest”. These stands have a higher percentage of beech sprouts that arise from trees killed by BBD. In addition, both causal agents remain in the stand, but are present at lower levels. This aftermath forest may experience a change in forest composition.



**A:** Advancing Front: Scale only. **B-C:** Killing Front: (B) Scale and peeled *Neonectria* cankers (C) numerous cankers. **D:** Aftermath Forest: Mortality of overstory beech. Photo credit: **A, C** Ron Kelley. **B, D** Joseph O’Brien, USDA Forest Service, [Bugwood](#).



## Early Detection Species: European Fly Honeysuckle

There are many members of the honeysuckle family (Caprifoliaceae) present in Vermont, including from the genus *Lonicera*. While there are locally-evolved species of *Lonicera* present, there are also several species that are considered invasive in Vermont. These include **Amur honeysuckle** (*Lonicera maackii*), **Morrow's honeysuckle** (*L. morrowii*), **Tatarian honeysuckle** (*L. tatarica*), and **showy honeysuckle** (*L. x bella*). Lesser known, but still invasive, is **European fly honeysuckle** (*L. xylosteum*), also known as dwarf honeysuckle or fly wood-bine.



European fly honeysuckle infestation. Photo credit: Leslie J. Mehrhoff, UCONN, [Bugwood](#).

European fly honeysuckle evolved in Europe and temperate Asia. Details of its introduction to this continent are sparse, though it was long cultivated across its evolved and now introduced ranges and is thought to have originally been brought to North America as a landscaping plant. Once here, it escaped cultivation and has invaded much of the eastern U.S., some western U.S. states, and some eastern Canadian provinces. It is thought to be rare in Vermont. European fly honeysuckle has been documented elsewhere in North America hybridizing with Tartarian honeysuckle (*xylosteum x tatarica* = *L. x xylosteoides* Tauch), and **that hybrid** has hybridized with Morrow's honeysuckle (*xylosteoides x morrowii* = *L. x minutiflora* Zabel).

Like most other invasive honeysuckles, European fly honeysuckle has hollow stems and branches, leaves that stay green well into fall, and has twinned flowers that develop into twinned berries. This species has pubescent stems and leaves, the leaves are broad and emerge silver-green and turn gray-green or blue-green with age, has white flowers (often tinted with warm hues), and berries that turn dark red when mature. The plants can reach heights of 6-10' tall, and be similarly wide, which gives a rounded habit to the plant.

Identifying European fly honeysuckle from other invasive [shrub honeysuckles](#), especially those that tend to have white flowers (Amur and Morrow's honeysuckle), can be hard most times of year. But during the summer and early fall, look for the following distinguishing characteristics:

- Leaf shape
  - European fly honeysuckle ranges from obovate to ovate or oval, with a blunt pointed tip.
  - Amur honeysuckle ranges from elliptic to ovate to lanceolate with a long tapered tip.
  - Morrow's honeysuckle ranges from oval to elliptic to ovate with a blunt pointed tip.

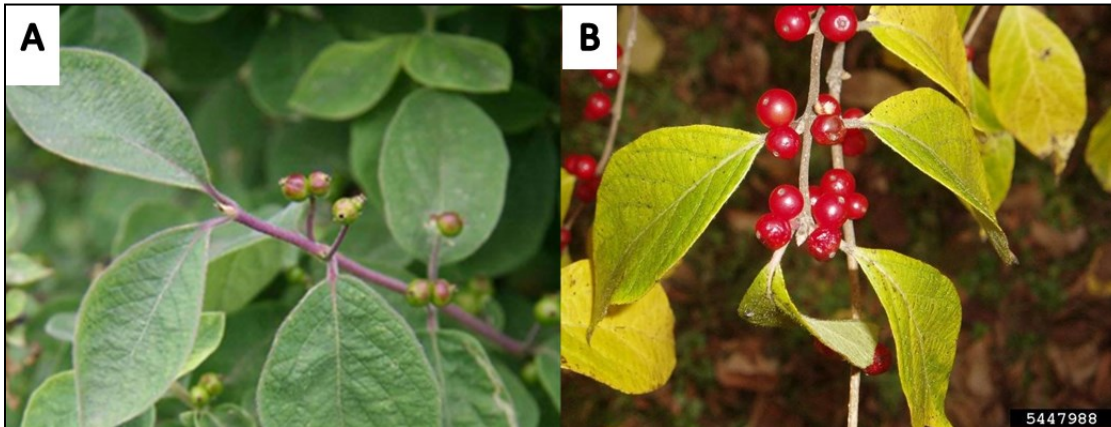
Example of varied leaf morphology for European fly honeysuckle. Photo credit: Robert Vidéki, Doronicum Kft., [Bugwood](#).





- Stalks

- European fly honeysuckle peduncles are longer than their petioles.
- Amur honeysuckle peduncles are shorter than their petioles.
- Morrow's honeysuckle peduncles are longer than their petioles.

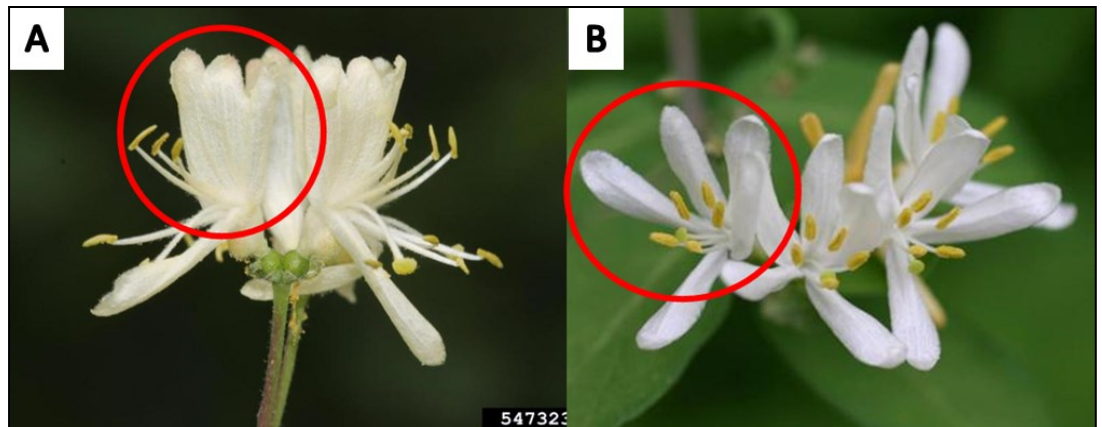


Comparison of peduncles and petioles between European fly honeysuckle (A) and Amur honeysuckle (B). Photo credit: (A) Robert Vidéki, Doronicum Kft., Bugwood. (B) Leslie J. Mehrhoff, UCONN, Bugwood.

- Flower Shape

- European fly honeysuckle has shallow sinuses on the upper corolla.
- Amur honeysuckle has shallow to moderate sinuses on the upper corolla.
- Morrow's honeysuckle has deep sinuses on the upper corolla.

Comparison of corolla sinuses between European fly honeysuckle (A) and Morrow's honeysuckle (B). Photo credit: (A) Rob Routledge, Sault College, Bugwood. (B) Leslie J. Mehrhoff, UCONN, Bugwood.



The features that historically made this an attractive landscaping plant -- tolerant of poor growing conditions and able to grow in shade, grows densely and vigorously, low maintenance -- also signal invasiveness. European fly honeysuckle can grow in human-disturbed areas, as well as forests, and forest edges. Like the other invasive honeysuckles, European fly honeysuckle spreads by seeds dispersed by animal or human activity, can escape a landscaped setting and thrive, and, because it lacks the nutrients many North American wildlife need, it is a poor substitute for locally evolved plants in the ecosystems it invades. Though there are aesthetic benefits to this species, the documented detrimental impacts and continued escape and spread throughout New England are reasons European fly honeysuckle is listed on Vermont's unofficial watchlist, and why the species has a New York Invasiveness ranking of moderate.

To learn more about invasive European fly honeysuckle, check out VTinvasives.org and these additional resources:

Native Plant Trust - GoBotany

Midwest Invasive Species Information Network

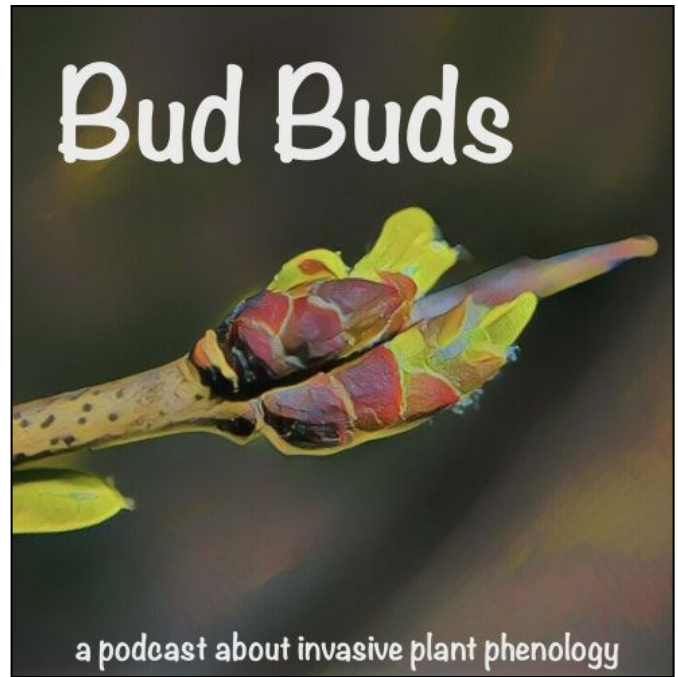
Invasive.org - IPANE



## Invasive Plant Phenology

In the second full week of each month, volunteers around the state observe and report invasive plant phenology. Their observations are compiled here, creating both a timely resource for best management options and a historic record of plant behavior. If you would like to be involved in this effort, please contact [pauline.swislocki@vermont.gov](mailto:pauline.swislocki@vermont.gov). This project aspires include observations from every county, so observers are still needed in multiple places.

For more information about the phenology of invasive plants in Vermont, check out [Bud Buds](#), a podcast from the Invasive Plant Program.



**Addison-** Leaves: common reed, knotweed spp., purple loosestrife, wild parsnip; Flowers or flower buds: common reed, knotweed spp., purple loosestrife; Open flowers: purple loosestrife; Fruits: wild parsnip; Ripe fruits: wild parsnip.

**Chittenden-** Leaves: Amur maple, Asiatic bittersweet, common buckthorn, common reed, garlic mustard, knotweed spp, multiflora rose, Norway maple; shrub honeysuckles, spotted knapweed, purple loosestrife, wild parsnip; Flowers or flower buds: common reed, garlic mustard, knotweed spp, purple loosestrife, spotted knapweed, wild parsnip; Open flowers: common reed, garlic mustard, purple loosestrife, spotted knapweed, wild parsnip; Fruits: Amur maple, Asiatic bittersweet, common buckthorn, garlic mustard, multiflora rose, Norway maple; shrub honeysuckles, wild parsnip; Ripe fruits: common buckthorn, garlic mustard, shrub honeysuckles, wild parsnip; Recent fruit or seed drop: garlic mustard, wild parsnip.

**Washington-** Leaves: common reed, purple loosestrife, wild parsnip; Flowers or flower buds: common reed; purple loosestrife; wild parsnip; Open flowers: common reed, purple loosestrife, wild parsnip; Fruits: wild parsnip; Ripe fruits: wild parsnip.

**Windsor-** Leaves: purple loosestrife, wild parsnip; Flowers or flower buds: purple loosestrife, wild parsnip; Open flowers: purple loosestrife, wild parsnip; Fruits: wild parsnip; Ripe fruits: wild parsnip.

**Orange-** Leaves: Asiatic bittersweet, autumn olive, burning-bush, glossy buckthorn, Japanese barberry, Norway maple, shrub honeysuckles; Fruits: Asiatic bittersweet, Japanese barberry.



**For more information,  
contact the Forest  
Biology Laboratory  
at 802-505-8259 or:**

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